

24. The probe of claim 20, wherein the universal and designate nucleotides and/or nucleotide analogs are peptide nucleic acids.

25. An oligonucleotide probe, comprising a sequence of universal and designate nucleotides and/or nucleotide analogs ordered in a pattern, wherein the pattern comprises a root and an iterated unit, and wherein the length of the root is identical to the length of the iterated unit.

26. An oligonucleotide probe of claim 25, wherein each iterated unit comprises a string of universal nucleotides and/or nucleotide analogs followed by one or more designate nucleotide and/or nucleotide analog.

27. The set of oligonucleotide probes of claim 4, wherein the designate nucleotides and/or nucleotide analogs comprise a purine or pyrimidine base, a ribose or deoxyribose sugar, and a phosphate group.

28. The set of oligonucleotide probes of claim 7, wherein the designate nucleotides and/or nucleotide analogs comprise a purine or pyrimidine base, a ribose or deoxyribose sugar, and a phosphate group.

29. The array of claim 8, wherein the designate nucleotides and/or nucleotide analogs comprise a purine or pyrimidine base, a ribose or deoxyribose sugar, and a phosphate group.

**REMARKS:**

Applicants thank the Examiner for the telephonic interview of October 29, and for the informal indication that all claims except claims 4 and 6 may be allowable.

Applicants note with appreciation that the Examiner had previously indicated that claims 1-3, 12, and 20-29 were in condition for allowance.

In order to avoid delay in issuance of a patent directed to the allowed subject matter, and not in acquiescence to the pending rejection of claims 4 and 6, Applicants request amendment of

claim 4 (and therefore dependent claims 6 and 27) so that these claims will depend from the allowed claim number 1 and will be directed to a set of probes as claimed in claim number 1.

Although claims 4 and 6 are now amended, Applicants believe that the claims are patentable in the unamended form. Applicants assert that none of the art cited by the Examiner, including Loakes et al. as combined with Chetverin et al., teaches the use of a set of probes having the described patterns and comprising a plurality of instances of a pattern. For explanation, Applicants reproduce here a portion of the specification (p.4, line 32):

A set of gapped probes, as the term is used herein, refers to a collection of probes having the same generic probe sequence, e.g., at least ten instances of the generic probe sequence. A generic probe sequence describes a pattern of designate and universal nucleotides, e.g., XXXXUUXUXX. An instance of a generic probe sequence is a sequence of designate and universal nucleotides which conforms to the pattern of the generic probe sequence, e.g., TCTAUUGUCG and GTATUUCUAG are instances of the generic probe sequence XXXXUUXUXX.

Applicants believe that none of the art presented provides motivation for one of ordinary skill to combine probes of Loakes et al. into a set comprising a plurality of instances of a generic pattern. Additional argument on this point was provided in the amendment of October 29, and for the sake of brevity these arguments are not repeated here. Nonetheless, as stated above, claims 4 and 6 are amended, and Applicants reserve the right to pursue claims similar or identical to the unamended claims in this or subsequent applications.

For convenience, Applicants present below a set of all claims as they should appear upon entry of this amendment, and a version showing corrections to claim 4.

AMENDMENT TO CLAIM 4, WITH EDITING MARKS SHOWN:

4. (Amended) A set of oligonucleotide probes of claim 1, comprising a plurality of instances of a pattern [sequence] of universal and designate nucleotides and/or nucleotide analogs [, wherein the universal and designate nucleotides and/or nucleotide analogs are ordered in an iterative pattern, and wherein

(a) the pattern comprises a first string of universal nucleotides and/or nucleotide analogs followed by a first segment, and a second string of universal nucleotides and/or nucleotide analogs followed by a second segment,


- (b) the first string and the second string each comprise a universal nucleotide and/or nucleotide analog, and
- (c) the first segment and the second segment each comprise a designate nucleotide.]

Conclusion

For the reasons given above, Applicants respectfully request reconsideration of this application and timely allowance of the pending claims. If there are any fees, such as excess claims fees, due in connection with the filing of this Response, please charge the fees to our Deposit Account No. 06-1448. If a fee is required for an extension of time under 37 C.F.R. §1.136 not accounted for above, such an extension is requested and the fee should also be charged to our Deposit Account.

Respectfully submitted,

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